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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/690,279	10/21/2003	Gregory D. Hoshal	33727.80390-001	4563
7590	10/21/2004		EXAMINER KWOK, HELEN C	
Warner Norcross & Judd LLP 900 Fifth Third Center 111 Lyon Street, N.W. Grand Rapids, MI 49503-2487			ART UNIT 2856	PAPER NUMBER

DATE MAILED: 10/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/690,279	Applicant(s) HOSHAL, GREGORY D.	
	Examiner Helen C. Kwok	Art Unit 2856	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-56 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-56 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>10/21/03</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Status of the Claims

1. The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

Misnumbered claims 25-59 have been renumbered as claims 24-56. Therefore, claims 1-56 are presently pending in the application.

Claim Objections

1. Claims 12-16, 30-34 and 35-49 are objected to because of the following informalities. Appropriate correction is required.

In claim 13, line 3, the word – the – should be inserted before the word “memory”.

In claim 14, line 3, the word – the – should be inserted before the word “memory”.

In claim 30, line 4, the phrase “a linear” should be changed to – the linear --.

In claim 33, line 1, the phrase “the step of” (first occurrence) should be deleted.

In claim 35, line 17, the word – the – should be inserted before the word “second”. In line 17, the word – the – should be inserted before the word “third”. In line 18, the word – the – should be inserted before the word “first”. In line 18, the word – the

– should be inserted before the word “second”. In line 18, the word – the – should be inserted before the word “third”.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 18-20 and 31-34 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 18, line 2, the phrase “first linear accelerometer outputs” is not clear on its meaning. How can there be more than one output when the first accelerometer produces only an output?

In claim 19, line 2, the phrase “first angular rate sensor outputs” is not clear on its meaning. How can there be more than one output when the first angular rate sensor produces only an output?

In claim 31, lines 1-2, the clause “the plurality of linear acceleration outputs series in the memory” is not clear on its meaning. In line 3, the phrase “the linear accelerometer threshold” lacks antecedent basis.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

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form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-12, 17-46 and 50-56 are rejected under 35 U.S.C. 102(b) as being anticipated by either U.S. Patent 6,438,472 (Tano et al.) or U.S. Patent 6,067,488 (Tano) or U.S. Patent 6,421,622 (Horton et al.) or U.S. Patent 6,292,759 (Schiffmann) or JP 9-52569 (Abe).

The references, Tano et al., Tano, Horton et al., Schiffmann, Abe, disclose a data recorder comprising an angular rate sensor producing an angular rate sensor output; a processor coupled to the angular rate sensor; and a memory coupled to the processor for storing the angular rate sensor. (See, Figure 1 of Tano et al.; Figure 2 of Tano; Figure 2 of Horton et al.; Figure 1 of Schiffmann; Figure 2 of Abe).

With regards to claims 2-9, the references, Tano et al., Tano, Horton et al., Schiffmann, Abe, suggest a storing means, continuous sampling means, filter, gain circuit and an A/D converter as claimed in these claims. (See, column 6, line 49 to column 16, line 62 of Tano et al.; column 4, line 23 to column 9, line 26 of Tano; column 2, line 63 to column 8, line 58 of Horton et al.; column 3, line 13 to column 10, line 61 of Schiffmann; Figures 1-12 of Abe).

With regards to claims 10-12, the references, Tano et al., Tano, Horton et al., Schiffmann, Abe, discloses a linear accelerometer for producing a linear accelerometer

output wherein the linear accelerometer output is compared to a threshold and stored if the output exceeds the threshold.

With regards to claims 17-20, the claims are commensurate in scope with claims 1-16 and are rejected for the same reasons as set forth above. (claiming a first linear accelerometer and a first angular rate sensor).

With regards to claims 21-24, the claims are commensurate in scope with claims 1-16 and are rejected for the same reason as set forth above. Furthermore, the references disclose a x-axis linear accelerometer, y-axis linear accelerometer, z-axis linear accelerometer, a roll angular rate sensor, a pitch angular rate sensor, a yaw angular rate sensor. (claiming three accelerometers and three angular rate sensors).

With regards to claims 25-34, the claims are commensurate in scope with claims 1-16 and are rejected for the same reasons as set forth above. (claiming an angular rate sensor and a linear accelerometer).

With regards to claims 35-46, the claims are commensurate in scope with claims 1-16, 21-24 and are rejected for the same reason as set forth above. (claiming three accelerometers and three angular rate sensors).

With regards to claims 50-56, the claims are commensurate in scope with claims 1-9 and are rejected for the same reason as set forth above. Furthermore, the references disclose a second angular rate sensor and a third angular rate sensor. (claiming three angular rate sensors).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 13-16 and 47-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over either U.S. Patent 6,438,472 (Tano et al.) or U.S. Patent 6,067,488 (Tano) or U.S. Patent 6,421,622 (Horton et al.) or U.S. Patent 6,292,759 (Schiffmann) or JP 9-52569 (Abe) in view of U.S. Patent 5,754,449 (Hoshal et al.).

With regards to claims 13-14, Hoshal et al. discloses a data recorder comprising, as illustrated in Figure 1, a humidity sensor 16 and a temperature sensor 14. (See, column 3, lines 15-44). It would have been obvious to a person of ordinary skill in the art at the time of invention to have readily recognize the advantages and desirability of employing the humidity sensor and the temperature sensor as taught by Hoshal et al. to the apparatus of either Tano et al., Tano, Horton et al., Schiffmann, Abe to provide environmental conditions during handling and transportation of industrial applications at different transport modes or regions. (See, column 1, lines 9-20 of Hoshal et al.).

With regards to claims 15-16, the references, Tano et al., Tano, Horton et al., Schiffmann, Abe, further discloses a data communication interface for transmitting information to the processor.

With regards to claims 47-49, the claims are commensurate in scope with claims 13-16 and are rejected for the same reasons as set forth above.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The references cited are related to recording devices containing a plurality of detecting sensors.

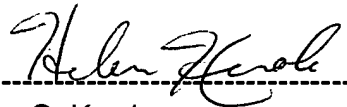
9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Helen C. Kwok whose telephone number is (571) 272-2197. The examiner can normally be reached on 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron E. Williams can be reached on (571) 272-2208. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

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you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in cursive script, appearing to read "Helen C. Kwok", is positioned above a horizontal dashed line.

Helen C. Kwok
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hck
10/15/2004